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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,633	12/05/2001	John Whittier Slemmons	A11-26124 DI	9245

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EXAMINER
GRAYBILL, DAVID E

ART UNIT PAPER NUMBER
2827

DATE MAILED: 06/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/005,633

Applicant(s)

SLEMMONS ET AL. 

Examiner

David E Graybill

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim 26 rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 25, 27-29 and 31-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Hatada (4784972).

At column 3, line 30 to column 4, line 63, Hatada teaches the following:

25. A microbeam assembly adapted to form interconnects between integrated circuit bond pads and substrate contacts, the microbeam assembly comprising: a carrier 10; and a plurality of conductive microbeams 12 releasably bonded to the carrier, wherein the conductive microbeams are sized and spaced to mate with the bond pads 14 of an integrated circuit 16.

27. A microbeam assembly according to 25 wherein the carrier is substantially rigid.

28. A microbeam assembly according to 25 wherein the carrier comprises fan-out conductors 12b for electrical testing of an integrated circuit.

29. A microbeam assembly according to 25 wherein the carrier comprises a release layer 24 for releasably supporting the conductive microbeams.

31. A microbeam assembly according to 25 wherein at least one microbeam comprises a bump 12A.

32. A microbeam assembly according to 31 wherein the bump is comprised of solder.

33. A microbeam assembly according to 32 wherein the at least one microbeam further comprises a solder dam 12B.

34. A microbeam assembly according to 31 wherein the bump is comprised of gold.

To further clarify the teaching wherein the at least one microbeam further comprises a solder dam 12b, it is noted that the edge of portion 12B comprises a barrier to check the flow of solder 36; therefore, it comprises a solder dam.

Claims 25 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Cranston (3634930).

At column 3, lines 20-45, and column 4, lines 47-53, Cranston teaches the following:

25. A microbeam assembly adapted to form interconnects between integrated circuit bond pads and substrate contacts, the microbeam assembly comprising: a carrier 32; and a plurality of conductive microbeams 40 releasably bonded to the carrier, wherein the conductive microbeams are sized and spaced to mate with the bond pads of an integrated circuit 30.

26. A microbeam assembly according to 25 wherein the carrier is a TAB carrier adapted for automated conductive microbeam attachment.

To further clarify the teaching wherein the conductive microbeams are sized and spaced to mate with the bond pads of an integrated circuit, it is noted that the microbeams are sized and spaced to mate with an integrated circuit, and the statement of intended use, "to mate with the bond pads," does not result in a structural difference between the claimed product and the product of Cranston. Further, because the product of Cranston is inherently capable of being used for the intended use the statement of intended use does not patentably distinguish the claimed product from the product of Cranston. Claims directed to product must be distinguished from the prior art in terms of structure rather than function. In re Danley, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a device is, not what

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a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hatada as applied to 30, and further in combination with Chen (2001/0027922).

Hatada does not appear to explicitly teach the following:
30. A microbeam assembly according to 29 wherein the release layer comprises tungsten.

Nevertheless, at paragraph 0034 to paragraph 0038, and paragraph 0043 to paragraph 0045, Chen teaches a tungsten release layer 16. Furthermore, it would have been obvious to combine the product of Chen with the product of Hatada because it would provide a release layer.

In the alternative, claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hatada as applied to claim 32, and further in combination with Hoffman (5367124).

Although Hatada teaches a solder dam, Hatada does not appear to teach verbatim a solder dam.

Notwithstanding, at column 5, line 55 to column 6, line 65, Hoffman teaches verbatim a solder dam. Furthermore, it would have been obvious to combine the product of Hoffman with the product of Hatada because it would prevent solder wicking.

33. A microbeam assembly according to 32 wherein the at least one microbeam further comprises a solder dam 12B.

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hatada as applied to claim 31, and further in combination with Lindberg (4022641).

Hatada does not appear to explicitly teach the following:

35. A microbeam assembly according to 31 wherein the bump is comprised of aluminum.

Regardless, at column 1, lines 64-68, and column 2, line 49 to column 3, line 28, Lindberg teaches an aluminum microbeam. In addition, it would have been obvious to use the aluminum microbeam as the microbeam (hence the bump) of Hatada because it would provide a microbeam.

The prior art made of record and not applied to the rejection is considered pertinent to applicant's disclosure. It is cited primarily to show inventions similar to the instant invention.

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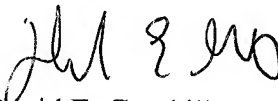
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Any telephone inquiry of a general nature or relating to the status (MPEP 203.08) of this application or proceeding should be directed to Group 2800 Customer Service whose telephone number is 703-306-3329.

Any telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (703) 308-2947. Regular office hours: Monday through Friday, 8:30 a.m. to 6:00 p.m.

The fax phone number for group 2800 is 703/308-7724.


David E. Graybill
Primary Examiner
Art Unit 2827

D.G.
2-Jun-02